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81-2341

MEMORANDUM FOR: Chairman, Strategic Planning Working Group
on Information Handling Facilities

10 NOV 1981

25X FROM:

[REDACTED]
DDA Plans Officer

SUBJECT: Comments on DDA Information Handling Facilities
Requirements During Next Decade

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FILE: O & M (IHSA)

1. This paper is submitted as a generalized forecast of Directorate requirements for terminals, data bases, and their communication interfaces. Input from Directorate Offices was solicited and provided within a short time frame which did not allow for detailed analysis. Unfortunately, there is not existent at present a consolidated Directorate plan delineating our future ADP plans and requirements. Therefore, the information provided herein, contains varying amounts of data submitted by Directorate Offices, and where this is not available, I have inserted my "best guess" as to the actual statistic or requirement. With this preamble, the following information is submitted.

2. Terminals: I am submitting two different estimates of terminals. The first was obtained by adding all the input from the offices for a total of [REDACTED] word processors. This total probably contains an unannounced inflation factor on the part of the Offices which is fairly traditional when an open-ended forecast is requested. The second estimate, and the one I would like you to work with, is an historical extrapolation based on actual acquisition and current approved requests which are in the pipeline. The extrapolation for terminals is: the 1981 base of [REDACTED] new terminals per year through 1989, equals a total forecast of [REDACTED] new terminals. The extrapolation for word processors is: the 1981 base of [REDACTED]

3. Some of the characteristics and/or functions of these terminals which we would like to have are:

- a. Ease of query
- b. Paperwork and delayed input nonexistent
- c. Data captured real-time and update/manipulation of data simultaneously with normal productive functions
- d. Automatic report generation as well as ad hoc report creation capability.

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- e. Document creation direct from data base
- f. Rapid search
- g. Rapid retrieval
- h. Text search
- i. Viewgraph creation
- j. Standard graphics (charts and graphs)
- k. Math computations
- l. OT&E requires an interface with video-disk and video display units for computer-assisted testing and learning for foreign languages

As a general rule throughout the Directorate, we will need an average of one printer for every two terminals. The Office of Security is interested in briefcase terminals and voice technology for their field offices. They would like a field investigator to be able to call in a report to a terminal and have the terminal convert his verbal report to a written report. The briefcase terminal would allow the field investigators to be more productive on their frequent TDY travel. The MAVIN Project (Medical Audio-Visual Information Network) will utilize TV satellite communications for two-way medical consultations between Headquarters and foreign posts, and will use laser video disks for information storage. In addition, OC will probably have an overseas requirement for up to twenty-five terminals prior to and exclusive of those programmed for CRAFT.

4. Data Base: The data base growth estimate for the Directorate is the 1981 base of 950,000,000 bytes times a 20 percent growth factor per year for a total data base requirement by 1989 for approximately 4,087,000,000 bytes.

5. While soliciting the above data, two separate and distinct desired functional modes emerged. The first was the traditional centralized, large-capacity data base stored in a large processing system under centralized professional control able to provide round-the-clock, highly expert and sophisticated programming, maintenance, trouble shooting, training, and general customer support. An obvious requirement in this mode would be a central personnel file which would fulfill the combined needs of OP, OS, OMS, Of and OT&E. Other current and potential requirements for large data bases on a large central processor are:

OL - Logistics Integrated Management System

OT&E - A consolidated Agency training record

OMS - A consolidated record of all Agency medical records

OF - A new payroll system, a new accounting system, and a new budget system

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OIS - A consolidated file of all Agency records and a consolidated record of all Agency regulations

OS - A consolidated Security file

I would estimate that the Directorate will need an additional five to seven large centralized data bases over the next ten years. A large data base would be greater than 500 million characters.

6. The second distinct functional mode desired is for small flexible data base systems. These data base systems could either be on small microprocessors located in the component area and be component responsibility for maintenance and service, or could be co-located through VM or other suitable means in a centralized data base with centralized maintenance. What would be of paramount importance to the individual Offices is that the data bases be locally programable so that discretion on varying and fluctuating user priorities in normal work requirements could be adapted within short time frames and with minimum coordination. The main criteria for these small data base systems would be simplicity and speed of acquisition and installation, rapid and cheap response to components work load problems, user friendly, and ease of programing or compatibility with commercially available business applications software packages. There are numerous routine activities throughout the Directorate which would lend themselves to standard business applications software packages on small, locally programable data base systems. Some examples are:

- OL - Work control (job) system for [REDACTED]
- System for Standard Transportation Account
- System for parking permits
- OIS - Regulations control
- Online FOIA and PA review
- OF - Automated travel accounting system
- OS - [REDACTED]
- Alarms and sales
- Polygraph program
- OT&E - Computer-assisted learning
- Class planning and lecture notes
- Graphics for class materials
- OMS - Schedule medical appointments
- Schedule and record laboratory work
- Track special problem cases

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I would estimate the Directorate will need 35 to 40 of these small data base systems during the next 10 years. A small data base would be equivalent to 50 million characters.

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25X1 7. Regarding data transmission, dissemination, and distribution, we need data and word processing transmission links between large, centralized data bases and support offices located throughout the metropolitan area [] and overseas. A very useful addition to the current transmission system would be the inclusion of a facsimile capability. This would be used in those regulatory or operational cases wherein data that has been transmitted in preformatted electronic channels (originals would normally be destroyed after confirmation of receipt) must be backed up with a signed receipt. Additionally, if and when small data base systems were deployed to different component areas, there would need to be an interface for the data bases to automatically exchange data. An additional transmission factor which is very difficult to assess at this time is our interface with other Government agencies. At the current time, []

25X1 [] OL deals with GSA, OT&E deals with DIA and other Government training entities, and OMS deals with other Government medical organizations. At present, these interfaces are not automated. It can be assumed that during the next decade, at least the beginning of an effort will be made in this direction. Finally, 25X1 we can see [] overseas requirement for secure voice and secure video both as standard communications and for teleconferencing.

8. The Directorate is interested in developing an electronic mail system. All Directorate correspondence would be synthesized to a common format and distributed electronically between inter- and intra-office mail boxes. This system ideally would encompass word processing (more efficient typing, filing, and revision of correspondence), facsimile (reproduce and transmit copies of documents), graphics (viewgraphs, standard charts and graphics, and a tie-in to P&PD). The electronic mail system should receive, store, retrieve, and transmit office mail, should interface with an Agency electronic mail system (assumed to be coming), and should also handle inter-office messages.

9. During the next decade as the requirements for ADP equipment and systems explode, and resources are not commensurate with needs, we will have to rely more and more on the non-ADP specialist to perform in what would traditionally be considered ADP specialties. This will demand that the architect of ADP systems, to be successful, maximize user friendliness in his system design and give increased allowance for additional training, technical writing, and user consultation services. The system architect should also design new systems to firm Agency-wide standards. I am not advocating a standard piece of hardware or standard software package but rather an overall configuration management control which establishes and enforces operating, installation, interface, interchangeability, and communications specifications and standards for all hardware and software systems, both micro and macro or centralized and distributed.

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10. In summary, the Directorate's goal for ADP development in the next decade would be to implement a configuration management controlled ADP system comprised of interactive micro and macro data base systems which give real time interactive service to all users of Directorate cognizant information in such a way that it appears to the user as one interactive data base system.

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DDA/MS: [REDACTED] (10 Nov 81)

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